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EXAMINER

KRYLOVA, IRINA

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Attachment to Advisory Action

1. Applicant's amendment filed on August 9, 2010 has been fully considered. However, the amendment is not entered at this time given that it raises other new issues that would require further consideration and/or search.

2. With respect to new issues, independent claim 1 has been amended to include the limitation of the copolymer (C) comprising 20-60 mass% of an aromatic vinyl compound and having a vinyl bond content in diene compound portion of 10-80 mass%. This limitation was taken from the original claim 3. Though the limitations of the original claim 3 have been previously considered and searched, however, introducing of these limitations into independent claim 1 changes the scope of independent claim 1 and thus the claims which are dependent on the amended claim 1 would require further consideration and/or search. For these reasons, the amendment is not entered.

3. Regarding the rejections of claims 1-12, 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yokoyama et al** (US 5,959,039) and claims 3-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yokoyama et al** (US 5,959,039) in view of **Sasaka et al** (US 6,376,593), Applicant argues that **Yokoyama et al** discloses at col. 4, lines 12-14 that 25 or more value of $S+(V/2)$ should be avoided because deterioration in the low-temperature flexibility occurs, thus teaching away from using a copolymer (C) comprising 20-60% mass of an aromatic vinyl compound and

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having a vinyl bond content in the diene portion of 10-80%mass, because when S is 20-60 and V is 10-80, $S+(V/2)$ is 25 or more.

4. Examiner disagrees.

As stated above, the amendment is not entered.

Even if the amendment was entered, nevertheless, since **Yokoyama et al** discloses the styrene content being less than 30%, therefore, where the styrene content is 19.9% and vinyl bond is 10%, the ratio of $S+(V/2) = 19.9 + 10/2$ is 24.9, i.e. less than 25.

At the same time the value of styrene content being 19.9% of **Yokoyama et al** is very close to the value of styrene content being 20% as claimed in the instant invention; it is the examiner's position that the values are close enough that one of ordinary skill in the art would have expected the same properties. Case law holds that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

5. Regarding the rejection of claims 1-11, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawauzra et al** (US 5,679,744) and claims 4-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kawauzra et al** (US 5,679,744) in view of **Yokoyama et al** (US 5,959,039), Applicant argues that a) in Table V-2, the block copolymer has a weight average molecular weight of 500,000, whereas the copolymer (B) of the instant invention, to which styrene-butadiene block copolymer

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corresponds, is having a weight average molecular weight of 50,000 to not more than 300,000; b) one of ordinary skill in the art would not expect high storage modulus (high G') and low loss factor (low $\tan \delta$) from **Kawauzra's** disclosure.

6. Examiner disagrees.

a) **Kawauzra et al** discloses that the weight average molecular weight of the block copolymer is in the range of 50,000 to 800,000 (col. 6, lines 49-54). Though the specific example in Table V-2 discloses the block copolymer having a weight average molecular weight of 500,000, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. *In re Lamberti* 192 USPQ 278, 280 (CCPA 1976) citing *In re Mills* 176 USPQ 196 (CCPA 1972). Therefore, it would have been obvious to one of ordinary skill in the art to utilize a block copolymer having a weight average molecular weight of less than 300,000 as well.

b) In addition, instant claims 1-16 are silent with respect to storage modulus G' and loss factor $\tan \delta$.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Irina Krylova whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasudevan Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Irina Krylova/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796